

***Remarks***

Reconsideration of this Application is respectfully requested.

***Status of the Application and Claims***

Upon entry of the present Amendment, claims 1, 3, 6-9, 12, 16-18, 21-26, 28-30, 32-34, 36, 39-42 and 44-49 are pending in the application, with claims 1, 16, 29, 36, 42 and 49 being the independent claims. Claims 2, 10, 31 and 43 are cancelled herein without prejudice to or disclaimer of the subject matter recited therein. Claims 4, 5, 11, 13-15, 19, 20, 27, 31, 35, 37 and 38 previously were cancelled. Claims 1, 3, 6-9, 12, 16-18, 21, 25, 29, 30, 32-34, 36 and 42 are amended. Claims 44-49 are newly presented.

***Summary of the Official Action***

In the Official Action, claim 43 was rejected under 35 U.S.C. §112, 2nd paragraph, as allegedly indefinite (lacking antecedent basis). Claims 1, 2, 6-9, 12, 29, 30, 33, 39, 40, 42 and 43 were rejected under 35 U.S.C. §103(a), as allegedly unpatentable over U.S. Patent 6,487,539 ("Aggarwal") in view of U.S. Patent 6,629,079 ("Spiegel"); claims 3, 10, 16-18, 21-26, 28, 31, 32, 34, 36 and 41 variously were rejected 35 U.S.C. §103(a), as allegedly unpatentable over Aggarwal and Spiegel further in view of one or more of Canadian Patent 2,249,096 ("Valentin") and U.S. Patent No. 6,006,218 ("Breese").

Reconsideration and withdrawal of the rejections respectfully are requested in view of the above amendments and the following remarks.

***Summary of Examiner Interview***

Initially, Applicants' undersigned attorney gratefully acknowledges the courtesy extended by Examiner Wassum in granting a personal interview with Applicants'

representatives on January 24, 2008. During that interview Applicants' representatives identified technical differences between Spiegel and Valentin and independent claims 1, 16, 29, 36 and 42. No agreement was reached during the interview. The substance of the interview is incorporated in the following remarks.

***Rejection under 35 U.S.C. § 112***

The rejection of claim 43 under 35 U.S.C. § 112, 2nd paragraph, respectfully is traversed. Nevertheless, without conceding the propriety of the rejection, and solely to advance prosecution of the application, claim 43 has been canceled without prejudice to or disclaimer of the subject matter recited therein, so the rejection of this claim has been rendered moot.

***Amendments to the Claims***

Claims 3, 6-9, 12, 17, 18, 21-26, 28, 30, 32-34 and 39-41 have been amended to improve their form. Support for these amendments may be found in the original application. No new matter has been added. Moreover, Applicants submit that the amendments do not narrow the scope of the claims.

Claims 1, 16, 29, 36 and 42 have been amended herein more clearly to recite various novel features of the invention, and claims 44-49 have been added to provide Applicants with additional scope of protection commensurate with the disclosure. Support for these amendments may be found in the original application. No new matter has been added.

***Rejections under 35 U.S.C. § 103***

The rejections of claims 1-3, 6-10, 12, 16-18, 21-26, 28-34, 36 and 39-43 under 35 U.S.C. § 103(a), as allegedly unpatentable over the cited references respectfully are

traversed. Nevertheless, without conceding the propriety of the rejections, independent claims 1, 16, 29, 36 and 42 have been amended herein more clearly to recite various novel features of the claims with particular attention to the Examiner's comments. Support for the amendments may be found in the original application, e.g., at page 15, lines 17-20. No new matter has been added.

Applicants submit that the cited patents fail to teach or suggest each and every feature recited in the claims. Moreover, Applicants submit that there are differences between the subject matter sought to be patented and the cited patents, such that the subject matter taken as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made.

As amended, independent claim 1 recites, *inter alia*:

...  
searching . . . wherein the searching includes:  
    determining an order for applying a recommendation filter  
and a constraint filter using a cost calculation *based on a probability that a  
randomly selected item of the plurality of items will pass the second  
applied filter of the recommendation filter and the constraint filter*;  
    selecting an item from the plurality of items and, in the  
determined order,  
        applying the constraint filter, comprising  
determining if the item satisfies the updated adaptable constraint for the  
recommendation request, and  
        applying the recommendation filter, comprising  
computing a predicted value based on the recommendation filter and  
determining if the predicted value exceeds a predetermined number,  
        wherein if the item does not pass the first applied  
filter, the item is discarded; and  
        appending the item to the recommendation list if the item  
passes both filters; and  
    transmitting the recommendation list for presentation on a device  
...

Independent claims 16, 29, 36 and 42 and newly presented independent claim 49  
each recite language directed to a similar cost calculation feature used to determine the

order of applying recommendation filter and the constraint filter based on a probability that a randomly selected item of the plurality of items will pass the *second* applied filter of the recommendation filter and the constraint filter.

Applicants submit Aggarwal, Spiegel, Valentin and Breese, alone or in any combination do not teach or suggest each and every element, limitation and/or feature of independent claims 1, 16, 29, 36, 42 and 49. None of Aggarwal, Spiegel, Valentin and Breese teaches or suggests at least the feature of a cost calculation based on a probability that a randomly selected item will pass the second applied filter of the recommendation filter and the constraint filter.

**Aggarwal** relates to semantic based collaborative filtering and was cited for its alleged disclosure of a method for providing a recommendation list. However, as acknowledged by the Examiner, Aggarwal fails to disclose determining an order to apply a constraint filter and a recommendation filter based on the cost of the filters. (See Office Action, pages 20-21, 24). Moreover, Applicants submit that Aggarwal fails to disclose or suggest at least the feature of determining an order for applying a recommendation filter and a constraint filter using a cost calculation based on a probability that a randomly selected item will pass the second applied filter of the recommendation filter and the constraint filter, as disclosed in the present application and recited in the claims.

**Spiegel** relates to using multiple roles in conducting electronic commerce and was cited for its alleged disclosure of a constraint including a plurality of free variables. However, as acknowledged by the Examiner, Spiegel fails to disclose determining an order to apply a constraint filter and a recommendation filter based on the cost of the

filters. (See Office Action, pages 20-21, 24). Moreover, Applicants submit that Spiegel fails to disclose or suggest at least the feature of determining an order for applying a recommendation filter and a constraint filter using a cost calculation based on a probability that a randomly selected item will pass the second applied filter of the recommendation filter and the constraint filter, as disclosed in the present application and recited in the claims.

Nor does Spiegel remedy the above-discussed deficiencies in Aggarwal, or add anything to Aggarwal that would have made obvious the claimed invention.

**Valentin** is directed to optimizing a “query execution plan” in relational database management systems. (Valentin, page 2-3). Valentin’s query execution plan “comprises a set of primitive operations...e.g., JOIN...” (*Id.* at page 3, line 9-10), and the “query optimizer uses specific combinations of operations to collect and retrieve the desired data” to “determine a query execution plan with the lowest execution cost.” (*Id.* at page 3, lines 1-4). In the personal interview, the Examiner characterized Valentin as teaching query plan optimization, including order determination wherein the filters are applied in such an order that the greatest number of records are filtered first, so that subsequent filters operate on fewer records. (See Examiner Interview Summary Record). Without conceding the propriety of the Examiner’s characterization of the reference, Applicants submit that Valentin fails to disclose or suggest at least the feature of determining cost based on *a probability that a randomly selected item of the plurality of items will pass the second applied filter* of a recommendation filter and a constraint filter, as disclosed in the present application and recited in the claims.

Nor does Valentin remedy the above-discussed deficiencies in Aggarwal and Spiegel, or add anything to Aggarwal and/or Spiegel that would have made obvious the claimed invention.

**Breese** is directed to retrieving information as a function of the user's knowledge, and was cited for its alleged disclosure of the feature of appending a predetermined number of items to a list and truncating the list when the predetermined number of selected ones have been met. (See Office Action, page 29, 31). Without conceding the propriety of the Examiner's characterization of the reference, Applicants submit that Breese fails to disclose or suggest at least the feature of a cost calculation for determining the order of applying filters based on the probability that a randomly selected item will pass the second applied filter of a constraint filter and a recommendation filter, as disclosed in the present application and recited in the claims.

Nor does Breese remedy the above-discussed deficiencies in Aggarwal, Spiegel, and Valentin or add anything to these references that would have made obvious the claimed invention.

For at least the above reasons, Applicants submit that independent claims 1, 16, 29, 36, 42 and 49 are allowable over the cited references.

Dependent claims 3, 6-9, 12, 39, 40, 45; 17, 18, 21-26, 28, 46; 30, 32-34, 37; and 41 and 48 depend from claims 1, 16, 29 and 36, respectively, and are believed allowable for the same reasons. Moreover, each of these dependent claims recites additional features in combination with the features of its respective base claim and is believed allowable in its own right. For example, claim 3 as amended recites the method of claim

1, “wherein the items are selected, filtered, and appended until the recommendation list includes a predetermined number of items.” Individual consideration of dependent claims 3, 6-9, 12, 17, 18, 21-26, 28, 30, 32-34, 39-41, 44-48 is respectfully requested.

### ***Conclusion***

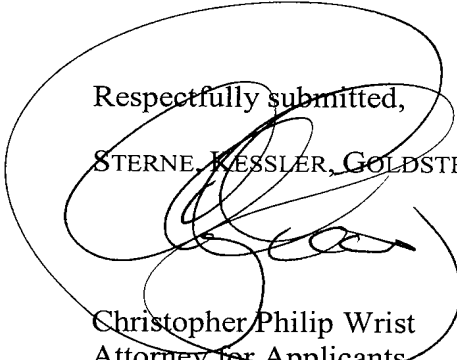
Applicants believe that the present Amendment is responsive to each of the points raised by the Examiner in the Official Action and the personal interview, and submit that the application is in condition for allowance. Favorable consideration of the claims and passage to issue of the application at the Examiner's earliest convenience earnestly are solicited.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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